

SOLIDAGO SIMPLEX (COMPOSITAE: ASTEREEAE),
THE CORRECT NAME FOR *S. GLUTINOSA*

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ABSTRACT

Solidago simplex Kunth, typified by plants from south central México, is an earlier name for a widespread species of the United States and Canada that has been variously called *S. decumbens*, *S. glutinosa*, *S. spathulata* var. *nana* and *S. spathulata* var. *neomezicanus*. The recognition of a "tall" and "short" form of *S. simplex* in the western United States is difficult and may reflect the existence of independently derived ecotypes rather than separate lineages.

KEY WORDS: *Solidago*, Asteraceae, taxonomy, México, North America.

A population system of *Solidago* in the eastern Sierra Madre of México is conspecific with a widespread taxon of the United States and Canada. The Mexican plants are *S. simplex* Kunth, which was described from plants from south central México, probably in the vicinity of México City, and they have been collected in the eastern Sierra Madre in the states of México, Hidalgo, Guanajuato, Tamaulipas and Nuevo León. Those from north of México have been variously called *S. spathulata*, *S. decumbens* and *S. glutinosa*. Rzedowski (1985) was the first to call attention to the probable synonymy of *S. simplex* with these taxa. Ringius (1986) and Ringius & Semple (1987) mapped the Mexican populations but apparently were unaware they had been named early in the 19th century. The latter workers essentially followed an earlier study by Cronquist (1947) by treating the western (diploid) and eastern (tetraploid) segments of this species complex (in the U.S. and Canada) as subspecies of *S. glutinosa* and recognizing varieties from within both subspecies. *Solidago spathulata* DC., a population system from the coastal strand of Oregon and California, was segregated by Ringius (1986) as a species distinct from widespread *S. glutinosa*, and I agree with this.

Since the earlier name for *S. glutinosa* and its infraspecific taxa is *S. simplex*, a number of new combinations will be necessary for taxa north of México, but with the exception of the caveat offered below, I defer to Dr. Ringius in applying a taxonomic scheme to the variation pattern he has studied in detail.

My view of the taxonomy of the western segment of *Solidago simplex* is presented below. The synonymy is representative but not complete.

Solidago simplex Kunth, Nov. Gen. Sp. 4 [folio]:81. 1818; 4 [quarto]:103. 1820. TYPE: MÉXICO. Santa Rosa ("Sanctae Rosae Mexicanorum"), September, *Humboldt & Bonpland s.n.* (HOLOTYPE: P, fiche!).

S. glutinosa Nutt., Trans. Amer. Philos. Soc. 2. 7:332. 1840. *S. spathulata* subsp. *glutinosa* (Nutt.) Keck, Aliso, 4:104. 1958. [tall form].

S. multiradiata var. *neomexicana* A. Gray, Proc. Amer. Acad. Arts 17:191. 1882. *S. neomexicana* (A. Gray) Woot. & Standl., Contr. U.S. Natl. Herb. 16:182. 1913. *S. spathulata* var. *neomexicana* (A. Gray) Cronq., Vasc. Pl. Pacif. Northw. 5:311. 1955. [tall form].

S. humilis var. *nana* A. Gray, Syn. Fl. N. Amer. 1(2):148. 1884. *S. glutinosa* var. *nana* (A. Gray) Cronq., Rhodora 49:76. 1947. *S. spathulata* var. *nana* (A. Gray) Cronq., Vasc. Pl. Pacif. Northw. 5:311. 1955. *S. purshii* var. *nana* (A. Gray) Farw., Amer. Midl. Nat. 12:72. 1930. [alpine, short form].

S. bonplandii O. Kuntze, Rev. Gen. Pl. 1:315. 1891.

S. decumbens E. Greene, Pittonia 3:161. 1897. [tall form].

S. oreophila Rydb., Mem. N.Y. Bot. Gard. 1:387. 1900. *S. decumbens* var. *oreophila* (Rydb.) Fernald, Rhodora 38:202. 1936. [tall form].

Two varieties have been distinguished among the plants of *Solidago simplex* in western North America (var. *nana* and var. *neomexicana* of *S. spathulata*, or var. *nana* and var. *glutinosa* of *S. glutinosa*). The alpine plants are generally shorter with a more compact, fewer-headed capitulescence and are restricted in distribution and habitat. The taller plants are found from British Columbia to central-México in a much wider range of habitats. In my opinion, it is difficult to provide more than an arbitrary separation of an alpine variety (var. "nana") of short stature from a taller one of lower elevations (var. "glutinosa"). Both forms, with intermediates, have sometimes been collected from the same site and mounted on the same sheet. The taller plants may have a compact or more elongated capitulescence. Cronquist's observation (1955, p. 311) that the varietal names in this group refer to "intergradient but fairly well marked ecotypes" appears to be true, and I suggest that in the western United States the alpine forms may be independently derived at various localities rather than constituting a single lineage. If so, such forms should not receive formal taxonomic recognition.

The Mexican plants have noticeably less pubescent achenes than plants widespread in the western United States and a greater tendency to produce

scattered cilia along the petiole margins. The differences, however, are only of degree and do not call for separate taxonomic status. Comments on a putative hybrid between *S. simplex* and a species endemic to eastern México are found in a separate paper (Nesom 1989).

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